## Claims

1. Device for injection and mixing of liquid droplets, comprising means for mixing a second drop with a first drop deposited on an electrically insulating layer of an analysis support, device wherein a viscous liquid in which the first and second drops are not miscible is deposited on the electrically insulating layer of the analysis support and the device comprises at least one injector designed to form, at an outlet orifice, the second drop above the first drop, the device comprising control means for controlling a voltage applied between a first electrode, arranged under the electrically insulating layer of the analysis support, underneath the first drop, and a second electrode arranged near to the outlet orifice of the injector.

2. Device according to claim 1, wherein the second electrode is a metal needle.

3. Device according to claim 1, wherein the second electrode surrounds a part of the walls of the injector.

4. Device according to claim 3, wherein the injector is sheathed by an electrically conducting material forming the second electrode.

5. Device according to claim 1, wherein the injector comprises at its free end a capillary tube connected to a volumetric pump.

6. Device according to claim 5, wherein the capillary tube is a micro-tube made of fused silica, sheathed with polyimide.

7. Device according to claim 1, wherein the electrically insulating layer of the analysis support is arranged on an electrically insulating support provided with an electrically conducting zone forming the first electrode.

8. Device according to claim 7, wherein said zone is formed by at least one electrically conducting layer arranged between the insulating layer and the electrically insulating support.

9. Device according to claim 7, wherein said zone is formed by a continuous strip arranged under a row of first drops.

10. Device according to any claim 1, wherein the electrically insulating layer of the analysis support is mobile.

11. Device according to claim 1, comprising a plurality of injectors arranged so as to simultaneously form second drops above a row of first drops.

12. Device according to claim 1, comprising a plurality of injectors arranged so as to successively form second drops.

13. Device according to claim 1, wherein the control means comprise means for placing the first and second electrodes at the same potential during formation of the second drop by the injector, and means for applying, after formation of the second drop, a first voltage impulse between the first and second electrodes during a first time period of about a few milliseconds to one second.

14. Device according to claim 1, wherein the control means comprise means for applying a second voltage impulse between the first and second electrodes

during a second time period of about a few milliseconds to a few seconds, after the first impulse.

15. Device according to claim 1, wherein the outlet orifice of the injector is arranged so that a distance between the first drop and the second drop is smaller than or equal to the mean diameter of the second drop.